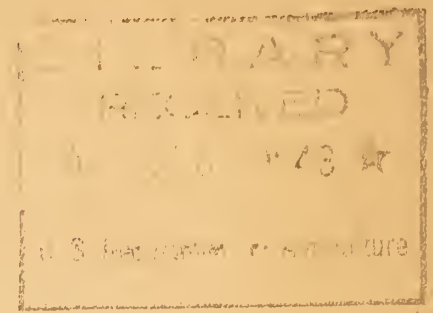


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UNITED STATES DEPARTMENT OF AGRICULTURE
FOOD DISTRIBUTION ADMINISTRATION



METHODS EMPLOYED
IN THE LABORATORY ANALYSIS
OF PROCESS CHEESE

BY THE

DAIRY AND POULTRY BRANCH

OF

FOOD DISTRIBUTION ADMINISTRATION

Laboratory Located At
Room 1616 - Mallers Building
5 S. Wabash Ave., Chicago, Ill.

1000
1000

388445
UNITED STATES DEPARTMENT OF AGRICULTURE
FOOD DISTRIBUTION ADMINISTRATION
DAIRY AND POULTRY LABORATORY

THE CHEMICAL ANALYSES OF PROCESS CHEESE

Sampling Procedure in Laboratory

Six sample jars of processed cheese (500 c.c.) are collected from each lot or car. Half of each jar is thoroughly ground and mixed with a small hand grinder and a mortar and pestle, packed tightly in a smaller jar and held under refrigeration until used for weighing. The remaining half of the original jar is held under refrigeration to be used if rechecking is required.

Solids

Duplicate tests for process cheese are ordinarily not necessary inasmuch as each car lot of process cheese is covered by six sub lot samples. However, in the case of bulk cheese where composite samples are taken rather than individual samples it is necessary that duplicate moisture determinations be conducted.

WEIGH MAY 2 1943
Weigh accurately 2 gram sample of well prepared cheese directly into a clean aluminum dish (approximately 65 mm in diameter) with cover in place. Place in atmospheric oven at 101° C - 103° C for approximately 12 hours or overnight. Continue procedure by placing in vacuum oven at 103° C for 60 minutes under not less than 20 inches vacuum. Place lid on dish and put in desiccator until completely cool. Weigh and report as percent solids.

Fat Analysis by Ammonia Hydroxide

Weigh into a Mojonnier flask a 1 gram sample of the well prepared process cheese, add 5 cc of distilled water and 7 cc of ammonium hydroxide. Place the flask in a water bath at 190° F. The particles of cheese are digested by shaking at intervals while in water bath. Remove the flask from the water bath and cool to room temperature. Add 10 cc of ethyl alcohol and mix thoroughly. Add 25 cc of ethyl ether, stopper, shake vigorously for at least 30 times. Also add 25 cc of petroleum ether in same manner. Centrifuge 30 times in 30 seconds. Decant into a weighed aluminum dish (high side walls). Repeat the above extraction using 5 cc of ethyl alcohol instead of 10 cc as for the original extraction. Use the same amounts of both ethyl and petroleum ether on second extraction. After centrifuging the level is raised with distilled water to the top of the neck. Place on 135° C hot plate and evaporate ether. Then place dish in 28" vacuum oven at 135° C, for 5 minutes. Cool in Mojonnier desiccator for 10 minutes, weigh and report as percent fat.

